



COSMOSIL

Food Additive Analysis by HPLC

Technical Note

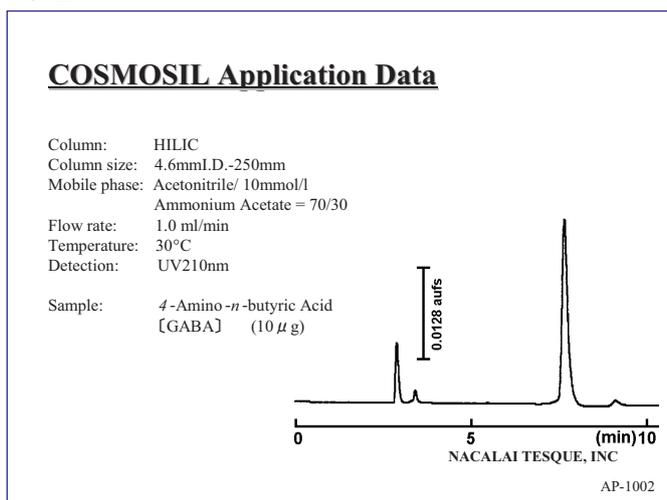
Food additives are substances added to food during processing or storage for a variety of purposes. They include enrichment agents for increased nutrient level, coloring agents for enhanced appearance, taste agents for better taste, and preservative agents for improved storage stability. High Performance Liquid Chromatography (HPLC) in conjunction with COSMOSIL ODS and specialty columns offer improved separation for a large variety of food additives.



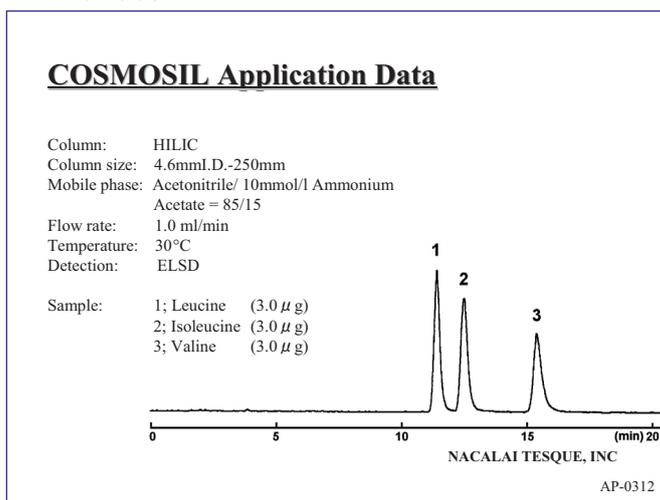
(1) Enrichment Agents

Enrichment agents can be divided into three groups; vitamins, minerals and amino acids. It is difficult to separate amino acids by a C₁₈ column due to their high hydrophilicity. COSMOSIL HILIC designed for separation for hydrophilic compounds offers improved separation for these compounds.

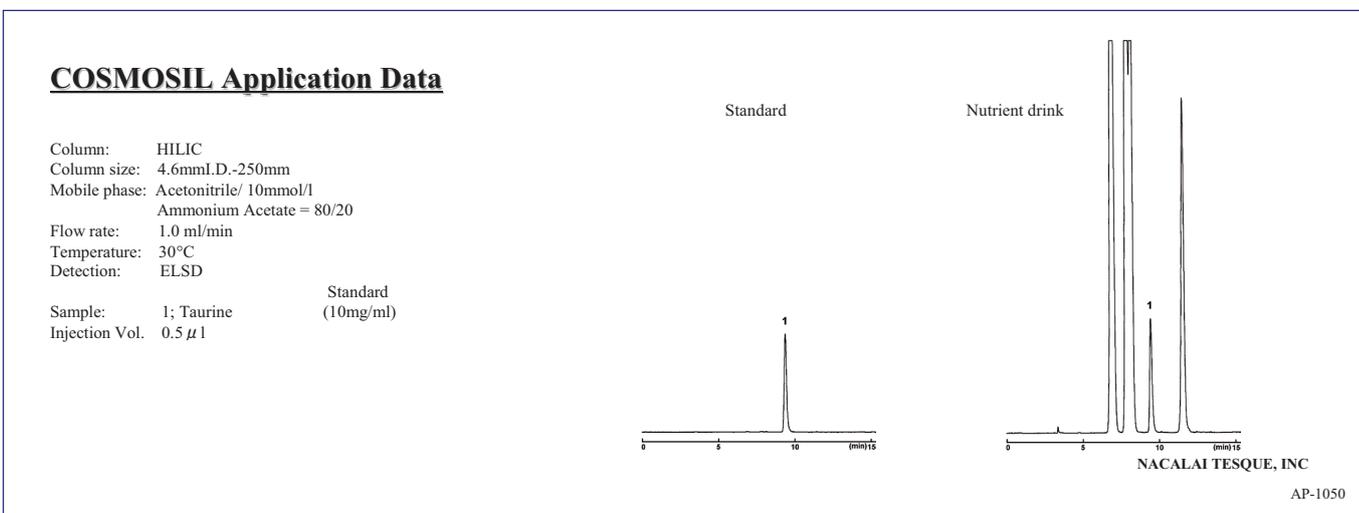
• GABA



• Amino Acids



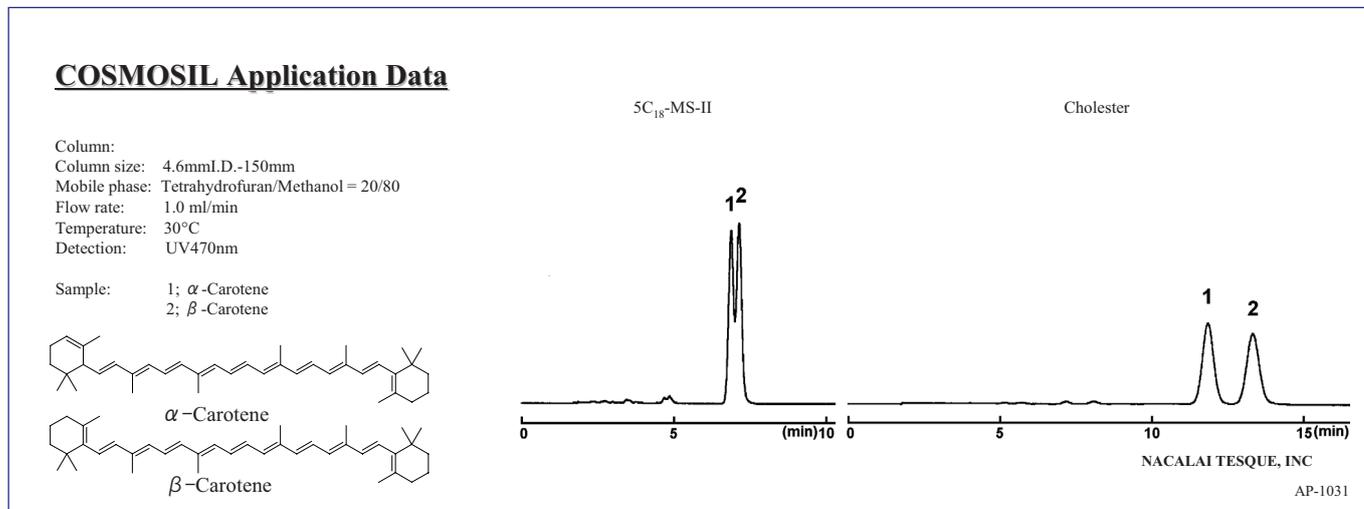
• Taurine



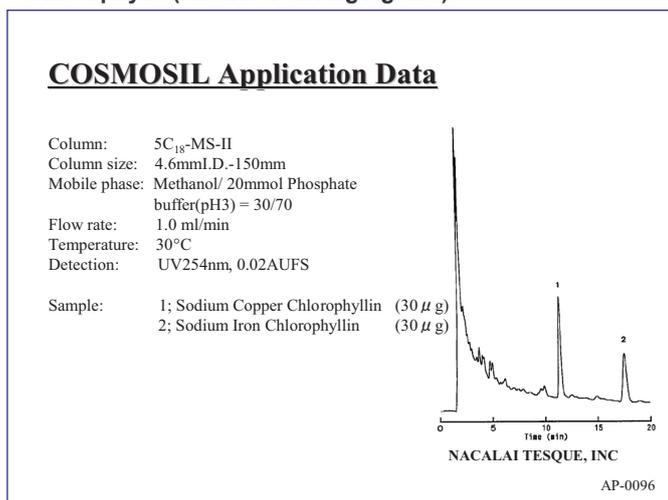
(2) Coloring Agents

Coloring agents can be divided into two groups; synthetic and natural coloring agents. Most of them can be separated by C₁₈ columns due to their high hydrophobicity. For compounds with similar structures such as carotene isomers of the natural coloring agents, COSMOSIL Cholester offers improved separation.

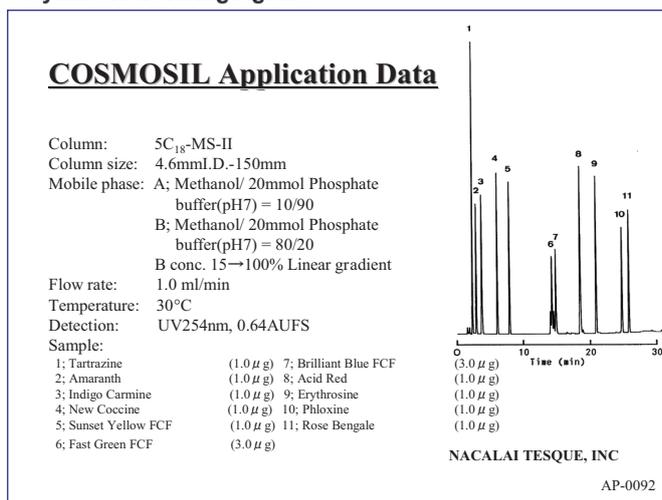
• Carotenoids (Natural coloring agents)



• Chlorophylls (Natural Coloring Agents)



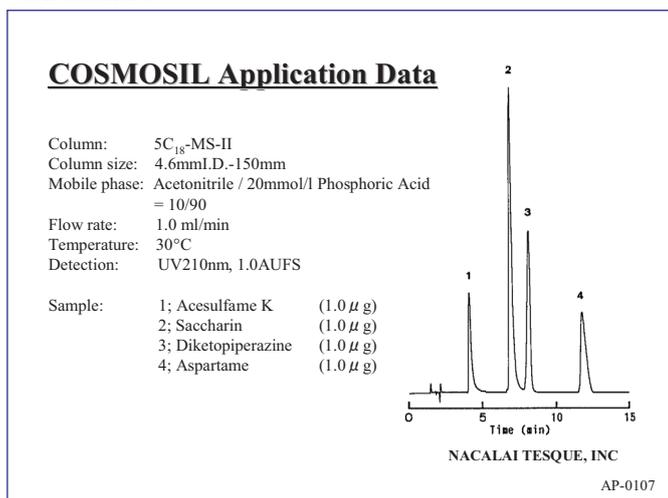
• Synthetic Coloring Agents



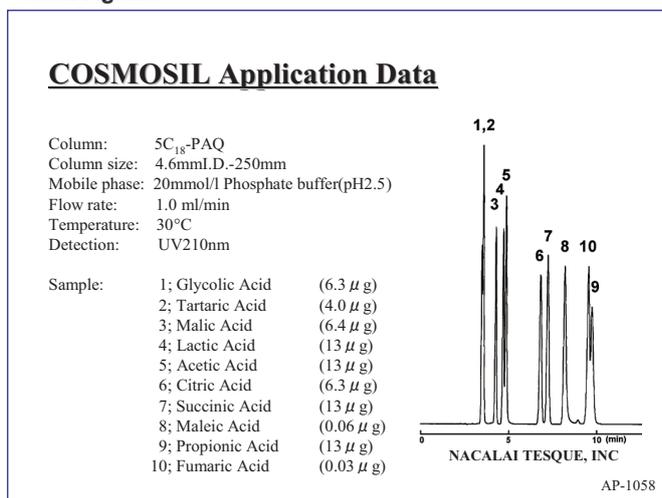
(3) Taste Agents

Taste agents for sweetness, sourness, saltiness, bitterness or savoriness can be separated by C₁₈ columns. However, for structurally similar compounds, e.g. capsaicin, COSMOSIL PYE with strong π-π interaction offers improved separation.

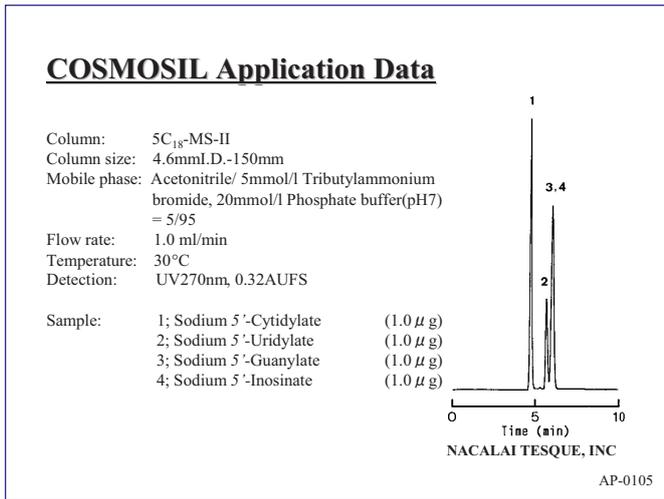
• Sweeteners



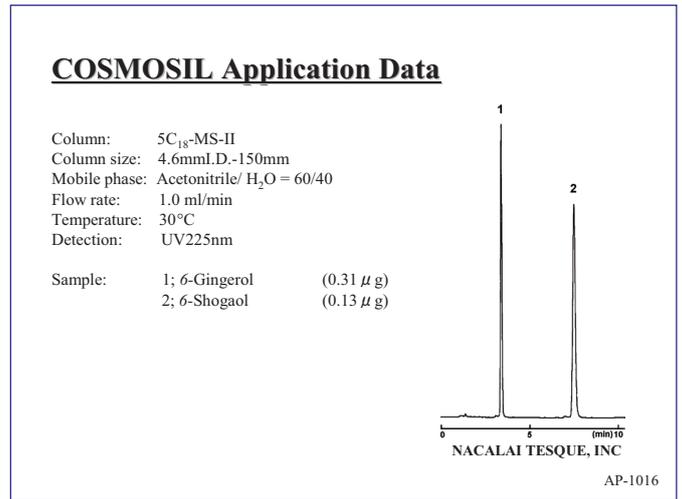
• Sour Agents



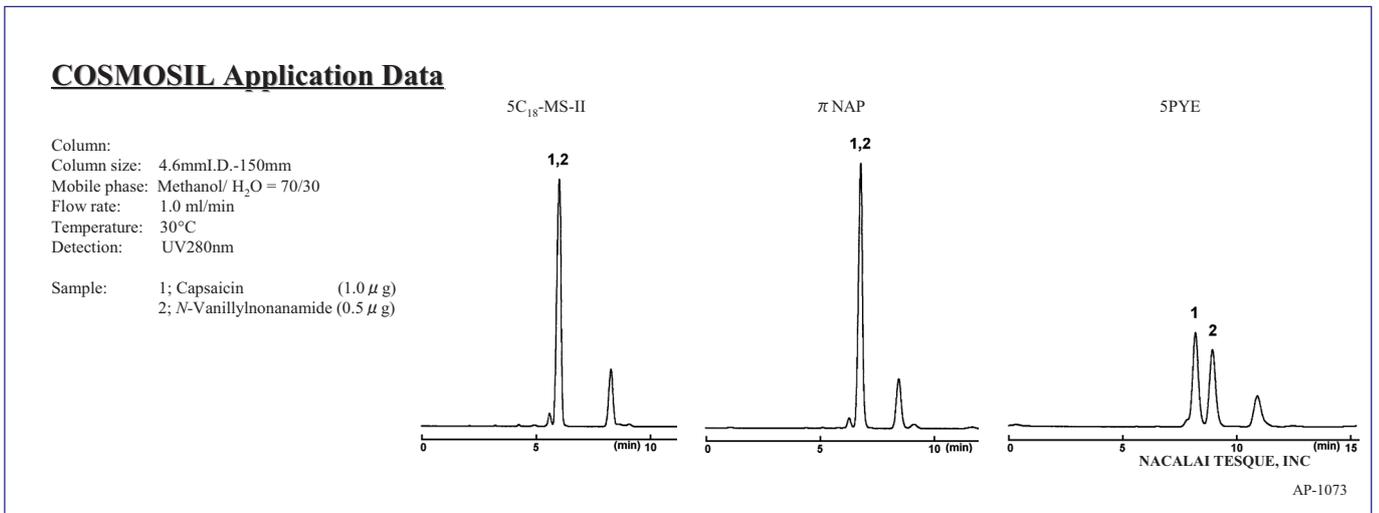
● Umami Agents



● Pungent Agents

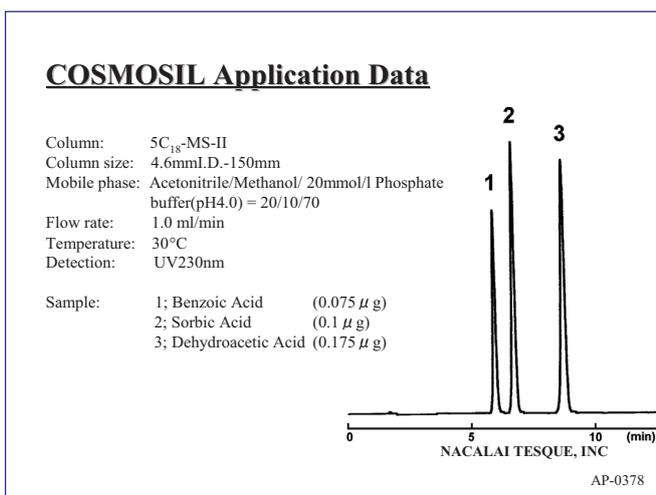


● Pungent Agents

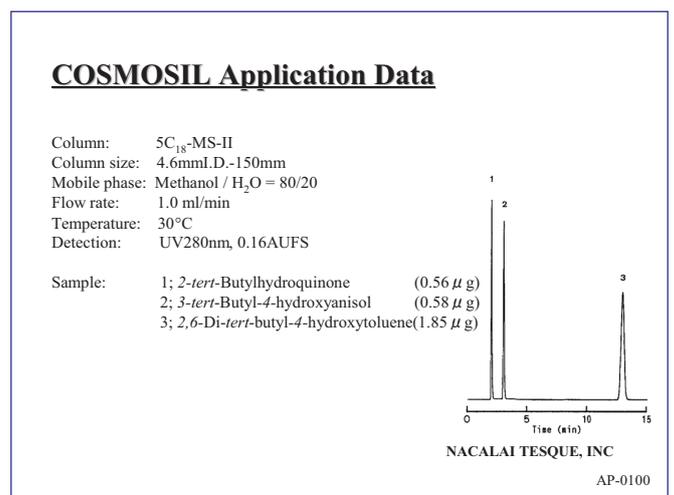


(4) Preservative Agents

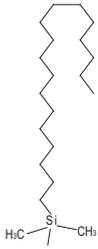
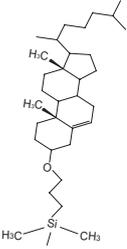
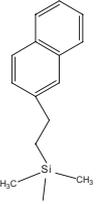
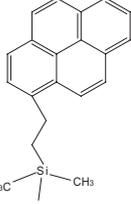
● Preservative Agents



● Antioxidant Agents



Specifications

Packing Material	C ₁₈ -MS-II	C ₁₈ -PAQ	Cholester	πNAP	PYE	HILIC
Bonded Phase Structure						
Bonded Phase	Octadecyl Group	Octadecyl Group	Cholesteryl Group	Naphtylethyl Group	Pyrenylethyl Group	Triazole
Main Interaction	Hydrophobic Interaction	Hydrophobic Interaction	Hydrophobic Interaction Molecular Shape Selectivity	Hydrophobic Interaction π-π Interaction	Hydrophobic Interaction π-π Interaction Stereoselectivity Charge-transfer Interaction	Hydrophilic Interaction
Features	<ul style="list-style-type: none"> Multi-purpose C₁₈ column for separation of the widest range of compounds 	<ul style="list-style-type: none"> Compatible with 100% water based mobile phase. Suitable for hydrophilic compounds. 	<ul style="list-style-type: none"> Specialty for structural isomers Usable under the same condition as C₁₈. 	<ul style="list-style-type: none"> Stronger π-π interaction than phenyl column 	<ul style="list-style-type: none"> The most powerful π-π interaction 	<ul style="list-style-type: none"> Suitable for highly-polar compounds Ion-pair reagent is not required
Product Code Column Size: 4.6 x 150	38019-81	02486-71	05976-61	08085-41	37837-91	07056-51

COSMOSIL Application

COSMOSIL Application has more than 7,000 applications using COSMOSIL columns. Setting optimal HPLC experimental parameters is the one of the most important processes that requires experience and time. COSMOSIL Application provides you with sample analysis conditions with widely used ODS columns and other specialty columns.

Visit our web site at <http://www.nacalai.co.jp/cosmosil/data/csмосrctop.cfm?lc=E> or type "COSMOSIL Application".

Only show new applications added on Dec. 20th 2011

Category:
 Amino acids & derivatives
 Peptides & Proteins
 Nucleic acids & relative compounds
 Drugs & related compounds
 Antibiotics
 Vitamins

Column name:
 C₁₈-MS-II
 C₁₈-AR-II
 C₁₈-PAQ
 Cholester
 πNap
 PYE

Sample Name:

CAS number:

Particle Size: ALL

Result/Page: 20

Applications are search by

1. Sample Category
2. Sample Name
3. CAS No.,
4. Column Name
5. Particle Size

Search Result

COSMOSIL Application

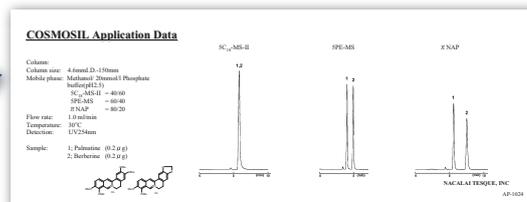
Search condition [Column=πNap]

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Results 24 (1/20) | Next

Data No.	Data Name	Sample	Particle Size (μm)	Column	CAS No.
AP-1206	Dichlorophenol	2,3-Dichlorophenol 120-83-2 2,5-Dichlorophenol 503-70-8 2,6-Dichlorophenol 87-65-0	5	πNAP	576-24-9

COSMOSIL Application



For research use only, not intended for diagnostic or drug use.